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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,977	06/08/2001	Lothar Wenzel	5150-56900	9949

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EXAMINER
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CASCHERA, ANTONIO A

ART UNIT	PAPER NUMBER
2676	3

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/876,977

Applicant(s)

WENZEL ET AL.

Examiner

Antonio A Caschera

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-38 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Quayle Action*

1. This application is in condition for allowance except for the following formal matters:

The disclosure and drawings are objected to because of numerous informalities (see specific informalities below).

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

### *Priority*

2. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 119(e).

### *Specification*

3. The disclosure is objected to because of the following informalities:
  - a. One of the occurrences of the term, "for all" should be omitted from the sentence found on page 39, line 3.
  - b. All reference numbers directed towards Figure 22, found on pages 79-80 should range from, "2202-2214" and not, "1402-1412" therefore, these reference numbers

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should be modified to correlate with reference numbers in Figure 22 (for example: #1402 of page 79, line 18, should be changed to #2202).

c. Reference number, “1402” should be changed to, “2202” in the phrase, “...mentioned in 1402 of Figure 22...” (see page 81, line 6).

d. The term, “As Figure 22 indicates” (see page 81, line 9 under section, “Figure 23 – Locating the Region of Interest in the Region) should be changed to, “As Figure 23 indicates.”

e. All reference numbers directed towards Figure 23, found on page 81 should range from, “2302-2312” and not, “1502-1512” therefore, these reference numbers should be modified to correlate with reference numbers in Figure 23 (for example: #1502 of page 81, line 9, should be changed to #2302).

Appropriate correction is required.

### ***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: #140 of Figure 3A, #306 of Figure 3C and #2214 of Figure 22. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Allowable Subject Matter***

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5. Claims 1-38 are allowed.

The following is an examiner's statement of reasons for allowance:

In reference to claims 1, 23 and 34, the prior art of record (Nair et al. (U.S. Patent 6,219,452 B1), Wenzel et al. (U.S. Patent 6,222,940 B1), Herken et al. (U.S. Patent 6,529,193 B1), Ninomiya et al. (U.S. Patent 5,790,442), Wenzel et al. (EP 1018708A2), Davies et al. "Low-Discrepancy Sequences for Volume Properties in Solid Modeling," and Dobkin et al. "Computing The Discrepancy With Applications To Supersampling Patterns.") does not explicitly disclose a method for generating a curve in a region, creating an unbounded Low Discrepancy Point, in combination with the further limitations of claims 1, 23 and 34.

In reference to claims 2-19, 24-33 and 35-38, claims 2-19, 24-33 and 35-38 are dependent upon claims 1, 23 and 34 respectively and therefore are also deemed allowable.

In reference to claims 20 and 22, the prior art of record (Nair et al. (U.S. Patent 6,219,452 B1), Wenzel et al. (U.S. Patent 6,222,940 B1), Herken et al. (U.S. Patent 6,529,193 B1), Ninomiya et al. (U.S. Patent 5,790,442), Wenzel et al. (EP 1018708A2), Davies et al. "Low-Discrepancy Sequences for Volume Properties in Solid Modeling," and Dobkin et al. "Computing The Discrepancy With Applications To Supersampling Patterns.") does not explicitly disclose generating a curve in a region applying boundary conditions to one or more terms of an unbounded Low Discrepancy Point in response to incrementing to generate a bounded Low Discrepancy Point wherein the bounded Low Discrepancy Point is located within the region, in combination with the further limitations of claims 20 and 22.

In reference to claim 21, claim 21 is dependent upon claim 20 and therefore is also deemed allowable.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *References Cited*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. Nair et al. (U.S. Patent 6,219,452 B1)
  - Nair et al. discloses a system and method for performing pattern matching using a Low Discrepancy sequence to sample an image.
- b. Wenzel et al. (U.S. Patent 6,222,940 B1)
  - Wenzel et al. discloses a system and method for performing pattern matching using a Low Discrepancy sequence to sample an image.
- c. Herken et al. (U.S. Patent 6,529,193 B1)
  - Herken et al. discloses a computer graphics system and method for generating pixel values in an image of objects using Low Discrepancy sequences as sample points.
- d. Ninomiya et al. (U.S. Patent 5,790,442)
  - Ninomiya et al. discloses a method and system for generating a Low Discrepancy sequence at high speed.
- e. Wenzel et al. (EP 1018708A2)

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- Wenzel et al. discloses a system and method for image characterization, pattern matching and other image manipulating functions, using a Low Discrepancy sequence to sample an image.
- f. Davies et al. "Low-Discrepancy Sequences for Volume Properties in Solid Modeling." CSG'98. 1998.
- Davies et al. discloses the use of Low Discrepancy sequences for computing volume integrals in geometric modeling.
- g. Dobkin et al. "Computing The Discrepancy With Applications To Supersampling Patterns." ACM Press, 1996.
- Dobkin et al. discloses an isotropic discrepancy technique for supersampling graphics using patterns.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (703) 305-1391. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (703)-308-6829.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

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Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service Office whose telephone  
number is (703) 306-0377.

aac

10/31/03



MATTHEW C. BELLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600